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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,806	09/25/2003	Malte Blomeyer	2001P04429WOUS	7583

7590 06/13/2005

SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPT.
170 WOOD AVENUE SOUTH
ISELIN, NJ 08830

EXAMINER

KIM, TAE JUN

ART UNIT	PAPER NUMBER
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3746

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/670,806

Applicant(s)

BLOMEYER, MALTE

Examiner

Ted Kim

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Applicant's amendment to the specification on the first line made 09/25/2003 is improper. Applicant claims this is the US national stage of PCT/EP02/05314, etc. This is only applicable if the application is filed as a 371. Since, application has claimed priority to the PCT under 35 USC 120, applicant is entitled to claim priority to the PCT as a continuation if indeed the disclosure meets the other requirements of a continuation set forth in the MPEP. See MPEP 1893.03(a) How To Identify That an Application Is a U.S. National Stage Application and MPEP 1896 The Differences Between a National Application Filed Under 35 U.S.C. 111(a) and a National Stage Application Submitted Under 35 U.S.C. 371.

Claim Rejections - 35 USC § 112

2. Claims 1-7, 9-16, 18-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. "the air blocking member situated at the air inlet and configured to cause a recirculation zone to develop toward an outer periphery of the outlet" is new matter. The air blocking member is not disclosed as causing the recirculation zone to develop toward an outer periphery of the outlet. The overall configuration of the burner is what is disclosed as causing the recirculation zone

(see e.g. page 8, lines 12-18), and it is unclear as to how one of ordinary skill in the art would make the air blocking member create the recirculation zone.

3. The amendment filed 4/25/05 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "the air blocking member situated at the air inlet and configured to cause a recirculation zone to develop toward an outer periphery of the outlet.

Applicant is required to cancel the new matter in the reply to this Office Action.

4. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant does not tie the structure of the claim together in a cohesive fashion as there is no relationship defined by the "said air inlet" on line 5, and "an air inlet" on the third paragraph of the claim.

5. Claim 8, line 5 recites the limitation "said air inlet". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 7, 9-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Becker (6,152,724). Becker teaches a burner apparatus for burning fuel and air to combustion gas comprising a premixing chamber 4 for premixing the fuel and air with an air inlet for the air 5 to enter said premixing chamber and having a cross-sectional area; a fuel inlet 11, 12 for the fuel to enter said premixing chamber an outlet for a mixture of air and fuel to exit said premixing chamber, wherein, said fuel inlet 11, 12 is located between said air inlet and said outlet, further comprising at least one air blocking member 13 situated at the air inlet for stabilizing a burner premixing flame by locally blocking the flow of air entering said premixing chamber so that downstream of said outlet a locally inhomogeneous fuel concentration (e.g. col. 3, lines 5-24 or col. 5, lines 56+, note that largely homogenous implies local areas of inhomogeneous) which inherently generates a locally hot stream of combustion gas that is hotter than the average flame temperature; said air inlet has in said cross-sectional area an outer periphery and with said at least one blocking member located at the outer periphery extending towards said main axis; swirl elements 9; a pilot burner may be present (col. 5, lines 31+); a gas turbine is taught (see abstract); recirculation zone 10 is taught; the claimed area ratios are shown in either Figs 4 or 5. A premixing chamber 4 for premixing the fuel and air having a cross-sectional area and extending along a main axis 1, and said premixing chamber comprises a ring channel, with said air inlet having an annulus cross-sectional area inclined to said main axis 1, comprising a swirl element 9 disposed in said ring channel for imposing a

momentum to said flow of air and for feeding said fuel 11, 12 in said flow of air; an air inlet having a cross sectional area and an outer periphery for the air to enter said premixing chamber, and a fuel inlet 11, 12 for fuel to enter said premixing chamber, and an outlet for a mixture of the fuel and air; the fuel inlet is located between the air inlet and outlet.

8. Claims 1-3, 7, 9-13, 15, 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Poeschl et al (6,189,320). Poeschl et al teach a burner apparatus for burning fuel and air to combustion gas comprising a premixing chamber for premixing the fuel and air with an air inlet for the air to enter said premixing chamber and having a cross-sectional area; a fuel inlet 6 for the fuel to enter said premixing chamber, an outlet for a mixture of air and fuel to exit said premixing chamber, wherein, said fuel inlet is located between said air inlet and said outlet, further comprising at least one air blocking member 4 situated at the air inlet for stabilizing a burner premixing flame by locally blocking the flow of air entering said premixing chamber so that downstream of said outlet a locally inhomogeneous fuel concentration results (col. 3, lines 5+, note that largely homogenous implies local areas of inhomogeneous) which inherently generates a locally hot stream of combustion gas that is hotter than the average flame temperature; said air inlet has in said cross-sectional area an outer periphery and with said at least one blocking member located at the outer periphery extending towards said main axis; swirl elements 5; a pilot burner 9 is present; a gas turbine is taught (see abstract); a recirculation zone at the outer periphery of the outlet is inherently present as the outlet

configuration of Poeschl et al appears identical to that of the disclosed invention and it is well known in the art that the sudden expansion of the flow at the outlet will inherently cause recirculation zones. A premixing chamber for premixing the fuel and air having a cross-sectional area and extending along a main axis 12, and said premixing chamber comprises a ring channel, with said air inlet having a annulus cross-sectional area inclined to said main axis 12, comprising a swirl element 5 disposed in said ring channel for imposing a momentum to said flow of air and for feeding said fuel 6 in said flow of air; an air inlet having a cross sectional area and an outer periphery for the air to enter said premixing chamber, and a fuel inlet 6 for fuel to enter said premixing chamber, and an outlet for a mixture of the fuel and air; the fuel inlet 6 is located between the air inlet and outlet; the air blocking member is located at the outer periphery, situated at the air inlet and extending toward the main axis.

Claim Rejections - 35 USC § 103

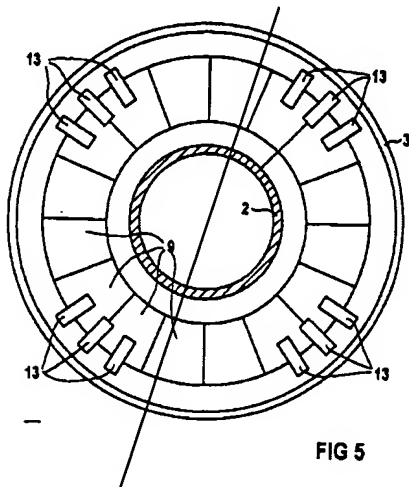
9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-3, 7-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Becker (6,152,724) in view of Becker (5,451,160). Becker '724 teaches the blocking members 13 in the inlet region but not in the upstreammost portion, i.e. at the outer

periphery situated at the air inlet. Becker '160 shows a blocking projection at the upstreammost portion, at the outer periphery, situated at the air inlet. It would have been obvious to one of ordinary skill in the art to place the blocking projections at the upstreammost portion at the outer periphery of the air inlet, as a well known location for protrusions. It is not clear whether Becker '724 will have the recirculation zone toward the outer periphery. However, Becker '160 also teach an outlet structure of the burner, which appears identical to that disclosed in the present application, and a recirculation zone at the outer periphery of the outlet is inherently present as the outlet configuration of Becker '160 appears identical to that of the disclosed invention and it is well known in the art that the sudden expansion of the flow at the outlet will inherently cause recirculation zones. It would have been obvious to one of ordinary skill in the art to employ the outlet configuration of the Becker '160, as a well known alternative outlet configuration contemplated for the burner type of Becker '724, where such a configuration will inherently produce the claimed recirculation. Becker appears to illustrate the claimed blocking area ratios of the blocking members. In order to obviate any doubt, it would have been obvious to one of ordinary skill in the art to employ the claimed ratios, as an obvious matter of finding the workable ranges in the art. As for distributing the blocking members asymmetrically, Becker '724 does allow for non-circular symmetry (see Fig. 5) and depending on the axis on which the axis is taken will also appear asymmetric. Alternately, Becker also would teach one of ordinary skill to

allow for some variation from symmetry to accommodate burner inlet tolerances and deviations from the idealized case.



asymmetric about this line

11. Claims 1-3, 7-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Poeschl et al (6,189,320) in view of Becker (6,152,724). Poeschl et al teach various aspects of the claimed invention but do not teach specifics of the blocking members, including the use of asymmetric blocking members. Becker '724 teaches a burner apparatus for burning fuel and air to combustion gas comprising a premixing chamber 4 for premixing the fuel and air with an air inlet for the air 5 to enter said premixing chamber and having a cross-sectional area; a fuel inlet 11, 12 for the fuel to enter said premixing chamber an outlet for a mixture of air and fuel to exit said premixing chamber, wherein, said fuel inlet 11, 12 is located between said air inlet and said outlet, further comprising at least one air blocking member 13 situated at the air inlet for stabilizing a burner premixing flame by locally blocking the flow of air entering said premixing

chamber so that downstream of said outlet a locally inhomogeneous fuel concentration (e.g. col. 3, lines 5-24 or col. 5, lines 56+, note that largely homogenous implies local areas of inhomogeneous) which inherently generates a locally hot stream of combustion gas that is hotter than the average flame temperature; said air inlet has in said cross-sectional area an outer periphery and with said at least one blocking member located at the outer periphery extending towards said main axis; swirl elements 9; a pilot burner may be present (col. 5, lines 31+); a gas turbine is taught (see abstract); recirculation zone 10 is taught; the claimed area ratios are shown in either Figs 4 or 5. A premixing chamber 4 for premixing the fuel and air having a cross-sectional area and extending along a main axis 1, and said premixing chamber comprises a ring channel, with said air inlet having a annulus cross-sectional area inclined to said main axis 1, comprising a swirl element 9 disposed in said ring channel for imposing a momentum to said flow of air and for feeding said fuel 11, 12 in said flow of air; an air inlet having a cross sectional area and an outer periphery for the air to enter said premixing chamber, and a fuel inlet 11, 12 for fuel to enter said premixing chamber, and an outlet for a mixture of the fuel and air; the fuel inlet is located between the air inlet and outlet. It would have been obvious to one of ordinary skill in the art to employ the blocking members, as taught by Becker, to enhance the flame stabilization of Poeschl et al. Becker appears to illustrate the claimed blocking area ratios of the blocking members. In order to obviate any doubt, it would have been obvious to one of ordinary skill in the art to employ the claimed ratios, as an obvious matter of finding the workable ranges in the art. As for distributing

the blocking members asymmetrically, Becker '724 does allow for non-circular symmetry (see Fig. 5) and depending on the axis on which the axis is taken will also appear asymmetric. Alternately, Becker also would teach one of ordinary skill to allow for some variation from symmetry to accommodate burner inlet tolerances and deviations from the idealized case.

12. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Becker (6,152,724) in view of either Zappa (4,762,487) or Gutmark et al (6,196,835). Becker teaches various aspects of the claimed invention but do not teach the blocking members width decreasing toward the main axis. Zappa teaches blocking members 35 for the air inlet and which have a triangular shape. Gutmark et al teach having triangular shaped blocking members 32. It would have been obvious to one of ordinary skill in the art to employ blocking members having a triangular shape, as an equivalent shape for providing a fluid blockage.

Response to Arguments

13. Applicant's arguments filed 4/25/05 have been fully considered but they are not persuasive. Applicant's arguments with respect to Becker '724 have to do with the circular-symmetric configuration. Certainly this is not of issue in the broad claims but only in a few of the dependent claims. Applicant's arguments misconstrue the Becker '724 which specifically allow for non-circular symmetry and thus asymmetry (see Fig. 5). Alternately, Becker '724 also would teach one of ordinary skill to allow for some

variation from symmetry to accommodate burner inlet tolerances and deviations from the idealized case.

14. As for the claimed recirculation zone, applicant's amendments to claim 1 constitute new matter as it is clear that the air blocking member is not disclosed as causing the recirculation zone to develop toward an outer periphery of the outlet. The overall configuration of the burner, specifically the edges at the outer periphery of the burner apparatus (which appears identical to that used in Poeschl et al '320 or Becker 160) is what is disclosed as causing the recirculation zone (see e.g. page 8, lines 12-18), and it is unclear as to how one of ordinary skill in the art would make the air blocking member create the recirculation zone.

15. As for claim 8, applicant's substantive revisions to claim 1 substantially deviate from the scope of original claim 8 and thus required further consideration. Upon further consideration, any indication of allowable subject matter in this claim is withdrawn.

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

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advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ted Kim whose telephone number is 571-272-4829. The Examiner can be reached on regular business hours before 5:00 pm, Monday to Thursday and every other Friday.

The fax numbers for the organization where this application is assigned are

703-872-9306 for Regular faxes and 703-872-9306 for After Final faxes.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe, can be reached at 571-272-4444.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist of Technology Center 3700, whose telephone number is 703-308-0861. General inquiries can also be directed to the Patents Assistance Center whose telephone number is 800-786-9199. Furthermore, a variety of online resources are available at <http://www.uspto.gov/main/patents.htm>



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Patents Assistance Center	Telephone	800-786-9199